Nov. 1, 1932. E. P. FICKEISSEN 1,885,813

TRAIN COUPLING

Filed July 14, 1931

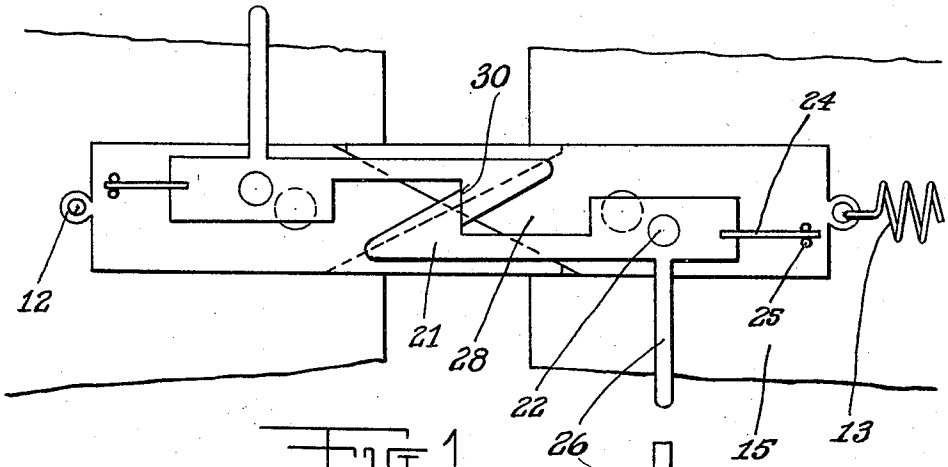



FIG. 1

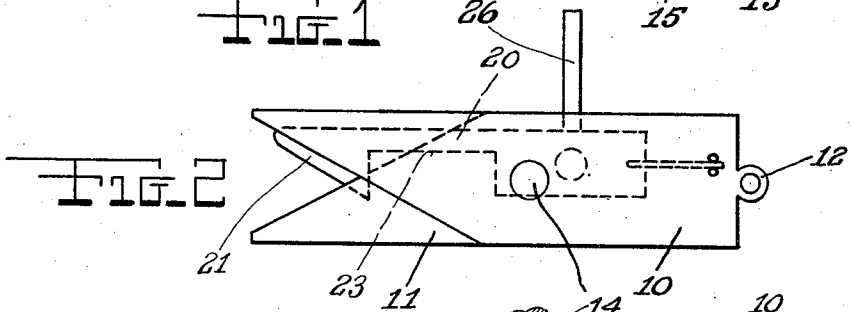



FIG. 2

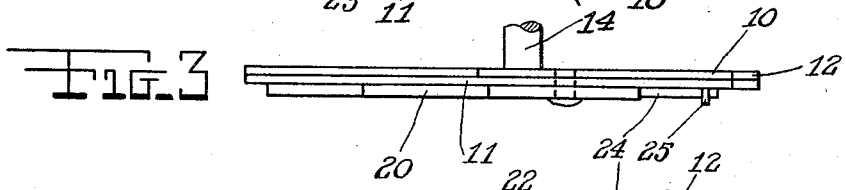



FIG. 3

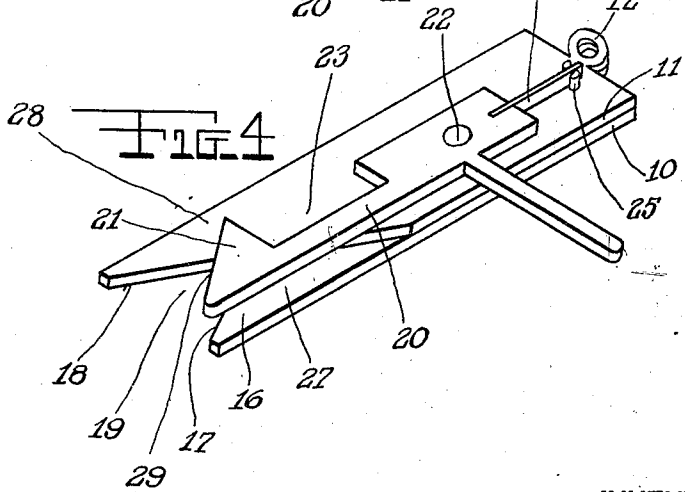



FIG. 4

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# UNITED STATES PATENT OFFICE

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## TRAIN COUPLING

Application filed July 14, 1931. Serial No. 550,675.

The main object of this invention is to provide a coupling adapted to be mounted upon railway cars or other public or freight carriers which are adapted to mutually interlock two adjacent cars.

Another object of the invention is to provide a standardized type of train coupling which is adapted to be mounted upon the ends of railway cars or other carriers and is adapted to automatically and releasably inter-lock as the cars are moved toward each other.

The above and other objects will become apparent in the description below in which characters of reference refer to like-named parts in the drawing.

Referring in detail to the drawing, Figure 1 is a bottom plan view of two independent coupling members in interlocked position.

Figure 2 is a top plan view of a coupling member.

Figure 3 is a side elevational view of Figure 2.

Figure 4 is a perspective view of a coupling unit in reversed position.

Referring in detail to the drawing, the numerals 10 and 11 indicate a pair of plates which are rigidly secured to each other by rivets, welding or the like. One end of these plates has an eyelet 12 formed thereon to which one end of a relatively strong coil spring 13 is secured. The purpose of the coil spring will be more fully hereinafter described. The plates 10 and 11 form a guide bar for the coupling unit of the plate 10 as rising therefrom a king pin 14 which is anchored in suitable journals in the bottom 15 of the tram or railway car. The guide bar is capable of moving about the axis of this king pin through a small degree of arc to accommodate the coupling of trains when the latter are riding around a turn or curve on the road bed. The forward end of the plate member 10 is formed into a tapering element being substantially pointed at its outer extremity 16. The inclined side edge 17 of the plate 10 and a similarly formed inclined edge 18 of the plate 11 forms a V-shaped gap 19. The plates 10 and 11 are arranged in two planes one above the other and are adapted to cooperate with an identical coupling unit upon an adjacent car. Beneath the plate 11 of the guide bar a pawl 20 having a tooth 21 is pivotally mounted upon a stud 22 and is provided with a reservoir recess 23 immediately behind the tooth 21. A resilient finger 24 has its end imbedded in the short end of the pawl 20 and the outer extremities of this tongue are retained between a pair of pins 25 which are spaced apart from each other and receive the tongue 24 there between.

The device is mounted beneath the floor of railway cars or trams and is adapted to be automatically coupled and manually released by the application of a rotating pressure upon the pawl handle 26. Normally when coupled cars are arranged upon a straight away track the spring 13 assumes an inactive position and retains the guide bar composed of the plates 10 and 11, parallel to the road bed and rails. All of the coupling of the units of this type are of identical construction and may be applied in the manner shown in Figure 1 which shows a bottom plan view. When two cars are to be coupled and are on a straight away track the finger 27 of the plate 10 will lie adjacent a similarly formed gap in the same plane. The gap adjacent the finger 27 will receive the finger 27 of the complemental coupling member while the finger 28 on the plate member 11 will have lying adjacent to it the finger 28 of the complemental coupling plate 11. In this manner the fingers of complemental couplings are guided into a position where the inclined edges 17 and 18 of the fingers of one coupling member rest upon the identical edges of the complemental member. As the inter-locking couplings are being moved into interlocking position the cam surface 29 on the teeth 21 of the pawl members 20 will trip each other and when the heads or teeth of these pawl members have their right angle corners 30 aligned the heads or teeth 21 will fall into the reservoir recess 23 the teeth 21 will engage each other and coupling members of both cars will become inter-locked and may not be released until either of the pawl han-

dles 26 are manipulated by swinging said handles to disengage one tooth 21 from the other.

It is to be noted that certain changes in form and construction may be made without departing from the spirit and scope of the invention.

I claim:

A car coupling device comprising a pair of substantially rectangular plates rigidly attached to each other, forming a unitary member of a thickness equal to the sum of the thicknesses of the two plates, one end of said member having an angular cut-out bounded by intersecting sides, one of said intersecting sides of one of said plates being continued in a straight line to the opposite side of said plate to form an elongated cam surface on said plate, the opposite intersecting side on the other of said plates being likewise continued to form a similar but oppositely disposed cam surface on said other plate, the ends of said plates being thereby formed into oppositely-disposed tongues, a pawl pivotally mounted on said member and having a jaw thereon lying adjacent said cut-out, and resilient means normally urging said jaw into said position.

In testimony whereof I affix my signature.

EDWARD P. FICKEISSEN.